AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1.-11. (Canceled).

12. (Currently Amended) A process for producing a low polarization mode dispersion optical fiber, comprising

drawing an optical fiber from a glass preform; and

imparting to the optical fiber, during drawing, a spin about its axis with inversions of the spin direction, the number of the inversions in a length of fiber of 20 m being at most two, the spin being imparted according to a bidirectional spin function including zones of substantially constant amplitude followed by zones of transition where the inversions take place, a length of each transition zone being less than 20% of a length of the zone of substantially constant amplitude preceding it, and wherein the transition zone has a non-zero length.

13. (Canceled).

14. (Previously Presented) The process according to claim 12, wherein the spin is imparted according to a bi-directional and non-periodic spin function.

15. (Canceled).

16. (Previously Presented) The process according to claim 12, wherein the length of each of the transition zones is less than 10% of the length of the zone of substantially constant amplitude preceding it.

17. (Previously Presented) The process according to claim 12, wherein the number of inversions of the direction of spin in a length of fiber of 25 m is at most two.

18. (Previously Presented) The process according to claim 12, wherein the peak amplitude of the bi-directional spin function is 2 turns/m to 10 turns/m.

19. (Previously Presented) The process according to claim 12, wherein the peak amplitude of the bi-directional spin function is between 2 turns/m to 5 turns/m.

20. (Previously Presented) The process according to claim 12, wherein the distance between two consecutive inversions is at most 15 m.

21. (Canceled).

22. (Previously Presented) The process according to claim 12, wherein the bi-directional spin function is trapezoidal.